

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A reinforced composite structure, comprising:

a. an elongate tubular member having first and second ends, a length of at least 10 feet, an outside surface defining an outer cross-sectional area of at least 28 square inches at a first location along the tubular member, and an inside surface defining a wall thickness of not more than 10 percent of an equivalent diameter of the outer cross-sectional area at the first location, the second end of the tubular member being implanted in the soil under a body of water so that the tubular member is disposed generally vertically, the first end of the tubular member being a free end and being disposed proximate to the surface of the body of water; and

b. a resilient plastic body encapsulating only a portion of the outside surface of the tubular member including a portion proximal to the first end, the plastic body extending on the outside surface of the tubular member not closer to the second end than 20 percent of the length of the tubular member.

2. (Original) The composite structure of claim 1, wherein the encapsulation extends lengthwise on the outside surface of the tubular member for at least three equivalent diameters of the outer cross-sectional area.

3. (Original) The composite structure of claim 1, wherein the encapsulated portion of the tubular member extends to the first end of the tubular member.

4. (Original) The composite structure of claim 3, wherein the plastic body is approximately flush with the first

end of the tubular member.

5. (Original) The composite structure of claim 3, wherein the plastic body encapsulates the first end of the tubular member.

6. (Original) The composite structure of claim 1, wherein the plastic body also substantially fills an axially extending portion of the tubular member.

7. (Currently Amended) A reinforced composite structure, comprising:

a. an elongate tubular member having first and second ends, a length of at least 10 feet, an outside surface defining an outer cross-sectional area of at least 28 square inches at a first location along the tubular member, and an inside surface defining a wall thickness of not more than 10 percent of an equivalent diameter of the outer cross-sectional area at the first location, the second end of the tubular member being implanted in the soil under a body of water so that the tubular member is disposed generally vertically, the first end of the tubular member being a free end and being disposed proximate to the surface of the body of water; and

b. a resilient plastic body encapsulating the first end of the tubular member and a portion only of the outside surface of the tubular member, the plastic body substantially filling the tubular member, extending on the outside surface of the tubular member not closer to the second end than 20 percent of the length of the tubular member.

8. (Original) The composite structure of claim 1, wherein the tubular member comprises fiber-reinforcing material.

9. (Original) The composite structure of claim 1, wherein the tubular member comprises fiberglass.

10. (Currently Amended) A reinforced composite structure, comprising:

a. an elongate tubular member having first and second ends, a length of at least 10 feet, an outside surface defining an outer cross-sectional area of at least 28 square inches at a first location along the tubular member, and an inside surface defining a wall thickness of not more than 10 percent of an equivalent diameter of the outer cross-sectional area at the first location, the second end of the tubular member being implanted in the soil under a body of water so that the tubular member is disposed generally vertically, the first end of the tubular member being a free end and being disposed proximate to the surface of the body of water;

b. a resilient plastic body encapsulating only a portion of the outside surface of the tubular member including a portion proximal to the first end, the plastic body extending on the outside surface of the tubular member not closer to the second end than 20 percent of the length of the tubular member; and

c. a reinforcing element contacting the inside surface of the tubular member.

11. (Original) The composite structure of claim 10, wherein the reinforcing element comprises a shear-resistant material substantially filling the tubular member.

12. (Original) The composite structure of claim 11, wherein the shear-resistant material is concrete.

13. (Original) The composite structure of claim 10, wherein the reinforcing element comprises an elongate reinforcing member extending within the tubular member and being in proximate contact with a portion only of the inside surface thereof.

14. (Original) The composite structure of claim 13, wherein the reinforcing member comprises a longitudinally distributed plurality of loop elements.

15. (Original) The composite structure of claim 14, wherein adjacent loop elements of the reinforcing member have a pitch spacing between approximately 25 percent and approximately 70 percent of the equivalent diameter of the tubular member.

16. (Original) The composite structure of claim 14, wherein the loop elements are helically formed.

17. (Original) The composite structure of claim 13, wherein the reinforcing member comprises a material selected from the group consisting of steel, nickel, carbon fiber, and fiberglass.

18. (Original) The composite structure of claim 13, wherein the reinforcing member has a cross-sectional area of between 0.02 percent and approximately 0.2 percent of the overall cross-sectional area of the tubular member.

19. (Original) The composite structure of claim 1, wherein at least a portion of the plastic body has a radial thickness outside of the tubular member being not less than approximately 5 percent of a co-located circumference of the tubular member.

20. (Original) The composite structure of claim 1, wherein the plastic body consists of a main polymeric component and an additive component, the main polymeric component comprising low-density polyethylene of which at least 60 percent is linear low density stretch film polyethylene, the additive component including an effective amount of an ultraviolet inhibitor.

21. (Currently Amended) The composite structure of claim 20, wherein the main polymeric component is at least 90 percent by weight ~~wieght~~ of the plastic body, the plastic body including not more than 5 percent by weight of high-density polyethylene.

22. (Currently Amended) A reinforced composite structure comprising:

a. an elongate tubular member comprising fiberglass and having first and second ends, a length of at least 10 feet, an outside surface defining an outer cross-sectional area of at least 28 square inches at a first location along the tubular member, and an inside surface defining a wall thickness of not more than 10 percent of an equivalent diameter of the outer cross-sectional area at the first location, the second end of the tubular member being implanted in the soil under a body of water so that the tubular member is disposed generally vertically, the first end of the tubular member being a free end and being disposed proximate to the surface of the body of water; and

b. a resilient plastic body encapsulating a portion of the outside surface of the tubular member proximal to the first end, the plastic body extending on the outside surface

of the tubular member partway only toward the second end thereof, the encapsulation extending lengthwise on the outside surface of the tubular member for at least three equivalent diameters of the outer cross-sectional area, the plastic body extending outside the tubular member not closer to the second end than 20 percent of a length of the tubular member, the plastic body comprising a main polymeric component and an additive component, the main polymeric component comprising low-density polyethylene of which at least 60 percent is linear low density stretch film polyethylene, the additive component including an effective amount of an ultraviolet inhibitor,

wherein at least a portion of the plastic body has a radial thickness outside of the tubular member being not less than approximately 5 percent of a co-located circumference of the tubular member.

23-31. (Canceled)

32. (New) A method for protecting a pier or dock from being damaged by passing or docking ships, the method comprising the step of erecting a reenforced composite structure proximate to the pier or dock, the reenforced composite structure comprising:

a. an elongate tubular member having first and second ends, a length of at least 10 feet, an outside surface defining an outer cross-sectional area of at least 28 square inches at a first location along the tubular member, and an inside surface defining a wall thickness of not more than 10 percent of an equivalent diameter of the outer cross-sectional area at the first location, the second end of the tubular member being implanted in the soil under a body of water so that the tubular member is disposed generally vertically, the first end of

the tubular member being a free end and being disposed proximate to the surface of the body of water; and

b. a resilient plastic body encapsulating only a portion of the outside surface of the tubular member including a portion proximal to the first end, the plastic body extending on the outside surface of the tubular member not closer to the second end than 20 percent of the length of the tubular member.

33. (New) The method of claim 32, wherein the encapsulation extends lengthwise on the outside surface of the tubular member for at least three equivalent diameters of the outer cross-sectional area.

34. (New) The method of claim 32, wherein the plastic body encapsulates the first end of the tubular member.

35. (New) The method of claim 32, wherein the plastic body also substantially fills an axially extending portion of the tubular member.

36. (New) The method of claim 32, wherein the tubular member comprises fiber-reinforcing material.

37. (New) A reinforced composite structure, comprising:

a. an elongate tubular member having first and second ends, a length of at least 10 feet, an outside surface defining an outer cross-sectional area of at least 28 square inches at a first location along the tubular member, and an inside surface defining a wall thickness of not more than 10 percent of an equivalent diameter of the outer cross-sectional area at the first location, the second end of the tubular member

being implanted in the soil under a body of water so that the tubular member is disposed generally vertically, the first end of the tubular member being a free end and being disposed proximate to the surface of the body of water;

b. a resilient plastic body encapsulating only a portion of the outside surface of the tubular member including a portion proximal to the first end, the plastic body extending on the outside surface of the tubular member not closer to the second end than 20 percent of the length of the tubular member; and

c. a reinforcing element contacting the inside surface of the tubular member.

38. (New) The method of claim 37, wherein the reinforcing element comprises a shear-resistant material substantially filling the tubular member.

39. (New) The method of claim 37, wherein the reinforcing element comprises an elongate reinforcing member extending within the tubular member and being in proximate contact with a portion only of the inside surface thereof.

40. (New) The method of claim 37 wherein the reenforcing element comprises an elongate reenforcing member extending within the tubular member and being in proximate contact with a portion only of the inside surface thereof, the reenforcing member comprising a longitudinally distributed plurality of loop elements.

41. (New) The method of claim 40, wherein the loop elements are helically formed.